

STATE OF LOUISIANA
DEPARTMENT OF PUBLIC SAFETY AND CORRECTIONS
OFFICE OF STATE FIRE MARSHAL CODE ENFORCEMENT AND BUILDING SAFETY
8181 INDEPENDENCE BOULEVARD, BATON ROUGE, LA 70806
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WEB SITE: www.dps.state.la.us/sfm

LA FIRE SPRINKLER ASSOCIATION QUARTERLY MEETING
10-17-2006
SFM ITEMS OF CONCERN

1	SFM OFFICE POLICY	MULTIPLE FIRE ALARM/SPRINKLER CONTRACTORS INVOLVED IN SAME SCOPE OF WORK
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04-21-2005 Question:

I have recently been asked how to handle the issue about one contractor submitting plans and another firm doing the installation. There are two different circumstances with this situation. One is where two firms are partnered together to do the job and the other is where one firm is fired and another one is hired. I conferred with Don Zeringue and Fidel Fremin about these matters and we came up with the following guidelines.

04-21-2005 SFM Response:

When two firms partner together, all of the following are required:

1. Both must be properly licensed for the work to be done (i.e., if a required fire alarm system is installed, then both firms must hold the Class D license).
2. Upon final installation, both the installing and submitting firm's information must be listed on the installation tag if an installation tag is required (the installation tag is not currently required for sprinkler systems).
3. The installing firm will hang a "green" service tag noting "installation".
4. The installing firm will provide any required testing certification forms required by the applicable code.

When the submitting firm is fired and another firm is hired to complete the job:

1. Plans must be resubmitted indicating the new firm doing the work, complete with new application and new review fee. The resubmitting firm can not work from the previous contractor's shop drawings because of conflict of interest and potential liability dispute.

2	2003 NFPA 14:6.1.2.2	PROTECTION OF SUPPLY AND DISTRIBUTION PIPING SERVING STANDPIPES
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08-05-2005 Question to David Hague NFPA 14 Committee Liaison:

The referenced code section is reiterated below:

NFPA 14:6.1.2.2 Standpipes and lateral piping supplied by standpipes shall be located in enclosed exit stairways or shall be protected by a degree of fire resistance equal to that required for enclosed exit stairways in the building in which they are located.

Is there any guidance regarding protection of the above ground main serving the standpipe? It looks like the code verse above takes care of all piping once the supply piping transitions through the protected stair, but what about the supply piping upstream of the stair enclosure?

08-08-2005 Reply from David Hague:

This replies to your E-Mail of August 5, 2005 requesting information on NFPA 14-2003 "Standard for the Installation of Standpipe and Hose Systems". The NFPA cannot approve a particular design or arrangement, but I can offer you my personal opinion of the standard as it relates to your situation.

The intent of this section is to protect the piping but more important, to protect the end user. In the event that the feed main is damaged and unusable, the standpipe isolation valve can be closed and the lower level hose valve can be used as an inlet to supply water to the standpipe. There is no requirement to protect the feed main piping.

This response does not represent a Formal Interpretation as noted below.

SFM Response:

All exposed piping serving standpipe systems, either upstream or downstream of standpipe location shall be protected by a degree of fire resistance equal to that required for enclosed exit stairways in the building in which they are located.

3 2002 NFPA EXCEEDING SCOPE OF QR SPRINKLERS IN 13R DESIGN
13R:6.6.7.1

08-05-2005 Question to John Mungo, NFPA Fire Protection Engineer:

Attached below is a one page copy of a submittal that shows QR sprinklers used throughout a residential board and care, small, with no residential sprinklers. Please tell me if I am evaluating this correctly.

Per NFPA 13R:

13R:6.6.7.1.1 Listed residential sprinklers shall be used unless another type is permitted by 6.6.7.1.3 or 6.6.7.1.4.

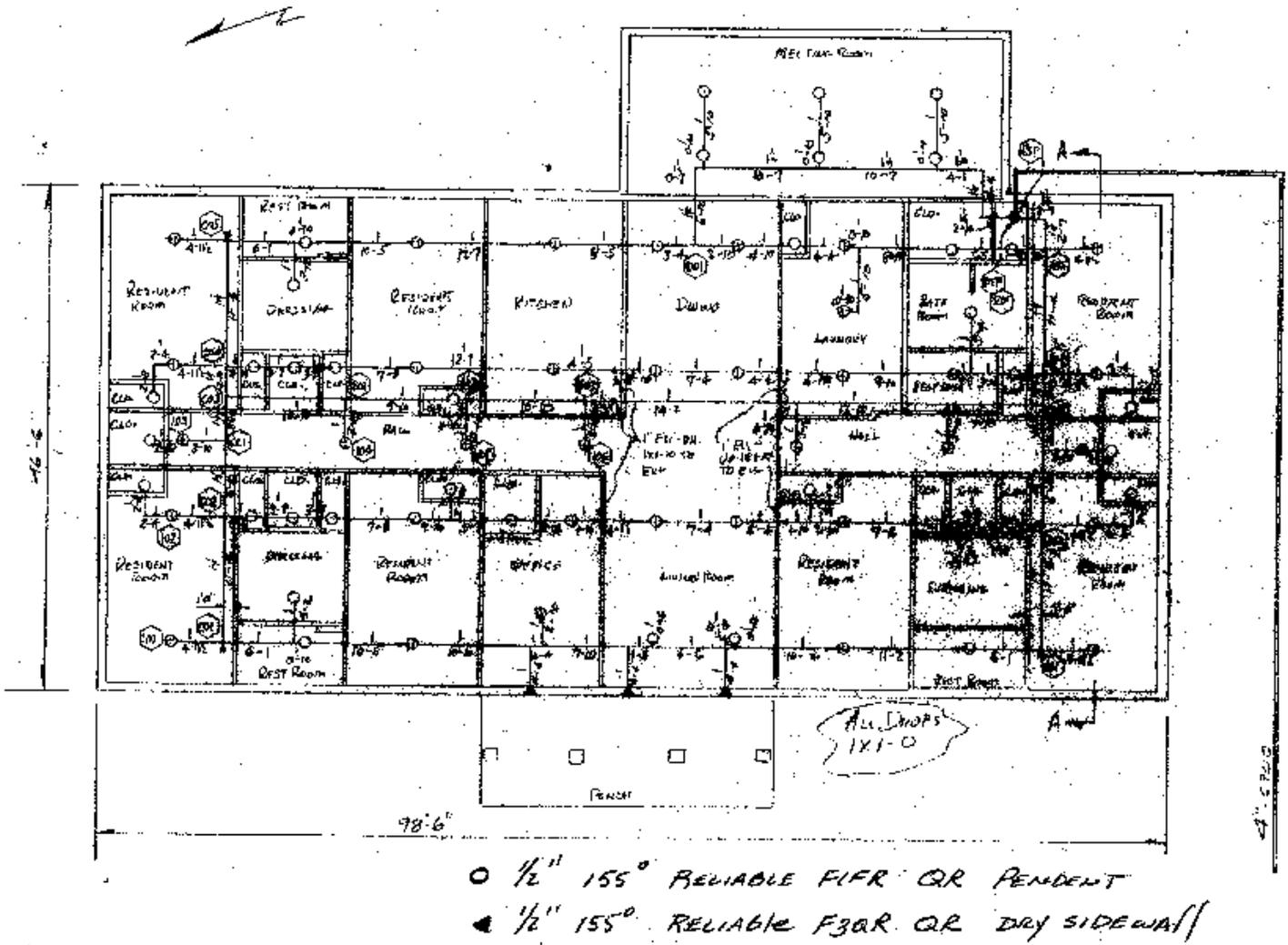
13R:6.6.7.1.3 Listed quick-response sprinklers shall be permitted to be installed in dwelling units meeting the definition of a compartment, as defined in Section 4.1, where no more than four sprinklers are located in the dwelling unit.

It appears that residential sprinklers are required in the resident rooms and their closets, dressing rooms, and rest rooms while quick response could be used in the halls, office (between resident room and living room) living/dining areas, kitchen, laundry, meeting room and porch, provided that these areas are calculated as areas outside the dwelling unit. Is this correct? Are any areas shown that are required to be protected by quick response sprinklers?

08-10-2005 Reply from John Mungo:

The diagram and description of the dwelling unit when compared with the definition in Section 3.3.4 clearly exceeds 4 sprinklers. Based upon your example, the reference to Section 6.6.7.1.3 would not apply and residential sprinklers would be required throughout.

Please be aware that this response does not constitute a Formal Interpretation as explained in the notice below.



4 2002 NFPA 13: APPROPRIATE SPRINKLER TYPE FOR MISCELLANEOUS STORAGE
 12.1.13.5

07-06-2006 Question to Chris Dubay, NFPA 13 Liaison:

The referenced code excerpt is reiterated as follows:

NFPA 13:12.1.13.5 The use of quick-response spray sprinklers for storage applications shall be permitted when listed for such use."

Is it the intent of the code that this section also apply to miscellaneous (incidental) storage applications in occupancies other than Storage, such as storage rooms in Business occupancies?

07-10-2006 Reply from Chris Dubay:

Miscellaneous storage falls under the occupancy hazard approach and would not require specially listed sprinklers.

Please be aware that this response does not constitute a Formal Interpretation as explained in the Important Notice below.

5 2002 NFPA 13: NFPA 13R SPRINKLER PROTECTION OF "PORCHES" VS. "EXTERIOR CORRIDORS"

12-21-2005 Statement from Jean Carter to Sprinkler Review Team:

In the recent past, there have been a couple of 13R projects involving exterior exit access "porches". Some of these "porches", were very restricted, regarding openness to atmosphere. These examples have been so restricted that this office did not deem them "porches" - they were deemed as "exterior corridors", thereby requiring sprinkler protection. The intent of 13R allowing open porches to be exempt from sprinkler protection is because porches are predominately open to atmosphere (typically open on 3 sides), so they do not retain smoke and also because porches have not been the source of residential occupancy fires, as researched by NFPA.

The "exterior corridor" examples mentioned above are predominately enclosed with exterior building walls, but these "exterior corridors" remain as non-heated/cooled spaces. They are so confined that this office determined that they could not function as a typical porch during fire conditions - smoke would be restrained in a very short period, rendering them just as lethal as interior rooms.

Please be on the lookout for any porch on a 13R or 13D project that is more restrictive than a 3-sided open porch - it's highly possible this office will require sprinkler protection for these restrictive porches. If you review a residential project containing porches that are restricted, please get with me so we can determine if these spaces will be reviewed as "porches" (sprinkler omission acceptable) or "exterior corridors" (sprinkler protection required).

6 2002 NFPA 13: NFPA 13:14.4.4.5(1), 2002 EDITION VS POTTER 11-24-2003 MEMORANDUM REGARDING
14.4.4.5(1) FLOW SWITCH FRICTION LOSS

Please note the following 11-24-2003 Memorandum from Potter:



Memorandum

Date: 11/24/03

Subject: Friction Loss Waterflow Switches

The May 2002 edition of NFPA 13, 14.4.4.5 (1) requires that the friction loss across vane type waterflow switches 2 inches and smaller be included in the fire sprinkler hydraulic calculations. As each community, County, State or local AHJ adopts this standard we can expect to receive telephone calls related to this topic. Our products are manufactured and tested to UL Standard 346.

UL 346 33. Hydraulic Friction Loss Test

"33.1 The head loss due to hydraulic friction in a waterflow indicator of a pipe size of 4 inches or less shall not exceed 3 psig (20.7 kPa) at a flow rate that will result in a velocity of 15 feet per second (4.6m/s) in the full-size pipe connection to a valve. For a size exceeding 4 inches, the head loss shall not exceed 1 psig (6.9 kPa) at the given flow rate."

In summary, when Potter is asked about friction loss across a vane type waterflow switch our answer is 3 psig for waterflow switches 4" through 1" and 1 psig for waterflow switches 5" through 10". This response is consistent with the requirements of NFPA 13, 14.4.3.1.1 "Table 14.4.3.1.1 shall be used to determine the equivalent length of pipe for fittings and devices unless manufacturers test data indicate that other factors are appropriate."

This memorandum is not confidential and may be distributed as needed.

Thanks,

A handwritten signature in black ink that reads "Mike Cabell".

Mike Cabral
Product Manager - Sprinkler
Potter Electric Signal Company
2081 Craig Road
St Louis, MO 63146
Phone 800-325-3936

10-20-2005 Question to Mike Henke, CET, Potter Electric Signal Company

Your attached 11-24-2003 Memorandum states, ". . .when Potter is asked about friction loss across a vane type waterflow switch our answer is 3 psig for waterflow switches 4" through 1" . . .

Here is NFPA 13:14.4.4.5(1), 2002 edition, FYI:

14.4.4.5 Friction Loss. Pipe friction loss shall be calculated in accordance with the Hazen-Williams formula with C values from Table 14.4.4.5, as follows:

(1) Include pipe, fittings, and devices such as valves, meters, flow switches in pipes 2 in. or less in size, and strainers, and calculate elevation changes that affect the sprinkler discharge.

Looks to me like Potter says 3 psig for a 4" switch but NFPA 13 says 0 psig for a 4" switch. Can you please comment on this discrepancy?

10-21-2005 Response from Mike Henke:

When Potter is asked about friction loss across vane type flow switches, the information provided is the UL requirements for the flow switch. UL requires that the friction loss across a flow switch 4" or smaller shall be 3 psi or less and 1 psi for devices over 4".

The section of NFPA 13 referenced in your message states that friction loss from flow switches 2" or smaller shall be included. It does not state that the friction loss for devices larger than 4" is 0 psi. It merely does not state that you must include it.

When you include the friction loss for flow switches on pipe sizes 1" - 4", you must use 3 psi because that is the UL requirement for all vane type waterflow switches in that size range.

10-24-2005 Statement from Jean Carter to Sprinkler Review Team:

Require the designer to provide documentation of flow switch friction loss - regardless of the size of the flow switch. Although the code has specific instruction for flow switches 2" and less, the code does not specifically state any particular requirements for flow switches greater than 2". Consult flow switch cut sheet from submittal to verify that designer accounted for friction loss - all sizes.

7 2002 NFPA 13: SIN NUMBERS REQUIRED ON SPRINKLER DRAWING SUBMITTALS
14.1.3(12)

07-31-2006 Comment from Donna LeBlanc to Sprinkler Team:

I am seeing more SIN numbers on the drawings now, which is good. Unfortunately, I've seen several projects lately with the wrong numbers called out, e.g. the cut sheet will indicate both standard response and quick response (5 mm standard response, 3 mm quick response) but the drawing will show the SIN number associated with the standard response sprinkler, in a Light Hazard, 900 + sq. ft. design area. Another thing I have seen is upright sprinklers drawn on the plans, but the SIN was for a pendent sprinkler. Please advocate this to the sprinkler contractor industry.

2002 NFPA 13: NFPA 13 PROTOCOL WHEN A SPRINKLER SYSTEM IS SMALLER THAN MINIMUM AREA
REQUIRED IN AREA/DENSITY METHOD BUT ADJACENT SPRINKLER SYSTEM EXISTS

Please note the following attachments:

06-11-2005 Letter from Sprinkler Contractor to SFM
06-19-1998 Fax from SFM to Chris Dubay, NFPA 13 Liaison
06-25-1998 Reply letter from Chris Dubay to SFM.
10-13-2006 Reply to sprinkler contractor from Tom Wellen, Technical Services, AFSA
10-15-2006 Reply to from SFM to Sprinkler Contractor

Jean C. Carter, Jr.,
Plan Review Architect
Office of State Fire Marshal
5150 Florida Boulevard
Baton Rouge, Louisiana 70806

STATE FIRE MARSHAL
ARCHITECTURAL SECTION

June 11, 1998

As we discussed on the telephone yesterday, I have discussed the issue of a small Dry-Pipe sprinkler system (less than 1500 sq ft) in addition to a Wet-Pipe sprinkler system with both Chris Dubay of NFPA and Roland Huggins, P.E. of the American Fire Sprinkler Association. Chris is the staff liaison for NFPA 13 and Roland is on the NFPA 13 Committee. Both Chris and Roland agree that these are two separate systems and that the Dry-Pipe system should be calculated with all of the sprinklers flowing without adding any sprinklers from the Wet-Pipe system.

Please delete comment number seven from your review letter and notify the inspection section and the architect that the design and calculations are acceptable without modifications.

A copies of your review letter and the letter to you from the Architect are enclosed for your reference.

If you should have any further questions, please let me know.

- SPEED LETTER
- PHONE CALL RECAP
- TRANSMITTAL FAX
- OTHER
- MEETING NOTES
- OTHER

NAME CHRISTIAN DUBAY
 COMPANY NFPA
 PHONE 617.770.3000.3458 FAX 617 984.7110
 ADDRESS P151529
 SUBJECT ^{DESIGN} PROTOCOL FOR SUBSTANDARD HYDRAULIC AREA
 COMMENTS BY J. CARTER DATE 6.19.98 PAGE 1 OF 1

CHRIS :
 ATTACHED, PLEASE FIND FOUR (4) PAGES OF CORRESPONDENCE, PERTAINING TO SUBJECT HYDRAULIC DESIGN PROTOCOL. WHY SHOULDN'T THE DRY AREA (1330 S.F.) BE REQUIRED TO MAKE UP THE DIFFERENCE OF DEFICIENT AREA, BY ADDING ADDITIONAL AREA FROM ADJACENT WET ~~AREA~~ SYSTEM (TO ~~COMPENSATE~~ EQUAL THE 1500 S.F. MINIMUM REQUIRED BY 1994 NFPA 13: FIG. 5-2.3)? I REALIZE THESE ARE TWO SEPERATE SYSTEMS, MANAFOLDED AT THE POINT OF BUILDING ENTRY. HOWEVER, IT IS ALL STILL ONE BUILDING, WITH NO FIRE BARRIERS SUBDIVIDING/ISOLATING ~~POTENTIAL~~ HYDRAULIC AREAS INTO LESS THAN 1500 S.F. (OR 1950 S.F.) MINIMUM REQUIREMENTS, ~~WHEN~~ I SEE NO CODE REFERENCE THAT WOULD EXEMPT A DESIGNER FROM INCLUDING ADJACENT WET SYSTEM AREA TO MEET REQUIRED MINIMUM, AND ADDING THIS ADDITIONAL FLOW/PRESSURE AT THE POINT OF CONNECTION (AT THE MANAFOLD). PLEASE ADVISE (CODE REFERENCE REQUESTED).



JEAN C. CARTER JR., ARCHITECT
 PLAN REVIEW DIVISION
 OFFICE OF STATE FIRE MARSHAL
 DEPARTMENT OF PUBLIC SAFETY AND CORRECTIONS

C: D. MILLER / BRASSCO
 M. RAGLAUD / P.O.R.

5150 FLORIDA BLVD. 1-800-256-5452
 BATON ROUGE, LA 70806 (504) 925-4911
 FAX (504) 925-4414

FAXED 6.10.98 1.25.98

RECEIVED

JUL 06 1998

STATE FIRE MARSHAL
ARCHITECTURAL SECTION



National Fire Protection Association

Engineering

1 Batterymarch Park, Quincy, Massachusetts 02269-9101 USA

Telephone (617) 770-3000 Fax (617) 984-7110 Electrical Dept. Fax (617) 84-7070

June 25, 1998

Log #13-635-98

Jean C. Carter Jr. Architect
Plan Review Division
Office of State Fire Marshal
Department of Public Safety and Correction
5150 Florida Blvd.
Baton Rouge, LA 70806

Dear Mr. Carter:

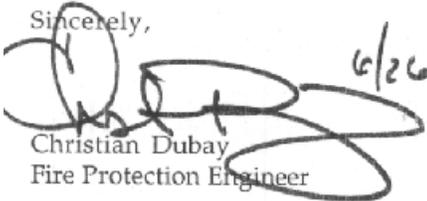
This replies to your fax of June 19, 1998, requesting information on the 1996 edition of NFPA 13, *Standard for the Installation of Sprinkler Systems*. The NFPA cannot approve a particular design or arrangement, but I can offer you my personal opinion of the standard as it relates to your situation.

- 1) Each area must be protected by a separate system. This appears to be the case in your fax, a dry-pipe and a wet-pipe sprinkler system.
- 2) The individual systems must be separated by each other by separation meeting the requirements of the room design method. This allows for areas less than the minimum design area to be calculated.

In the event that the above requirements are met, then the 1,330 sq. ft. of dry-pipe could be independently calculated from the wet-pipe system. However, if the above requirements are not met, then the minimum design area of 1,500 sq. ft. must be met. Again, based upon your fax, if both areas are required to be calculated, the 1,330 sq. ft. dry-pipe area plus an additional 1,70 sq. ft. of the wet-pipe system must be calculated and compared to the remote 1,500 sq. ft. of the wet-pipe system.

This response does not represent a Formal Interpretation as noted below in the Important Notice.

Sincerely,

 6/26
 Christian Dubay
 Fire Protection Engineer

L.A. S.F.M. PLAN REVIEW
 PO# 151529 REVIEWER J. CARTER
 READING FILE DATE MO. APR YR 98
 ORIG. TO _____
 SENDER _____ APPL. ✓ P.P.R. OWNER
 CC'S _____
 COPY WHAT PGS 6
 B.R. _____ N.O. _____
 SHREVE _____
 FOSTER _____
 OTHER _____

P. TWEEDEY, R. MATHIS

IMPORTANT NOTICE: This correspondence is not a Formal Interpretation issued pursuant to NFPA Regulations. Any opinion expressed is the personal opinion of the author, and does not necessarily represent the official position of the NFPA or its Technical Committees. In addition, this correspondence is neither intended, nor should be relied upon, to provide professional consultation or services.

BRASSCO: DAVID MILLED, D. LEBLANC, J. MOORE

9696 Skillman Street, Suite 300, Dallas, Texas 75243-8264
 Voice: 214.349.5965 Fax: 214.343.8898

October 13, 2006

RE: Remote Area for Porte Cochere

You described the situation as being involved in a project in Louisiana that has a 600 sq. ft. noncombustible Porte Cochere protected by a dry system at the request of the owner. The system is supplied from a separate riser located in the sprinkler riser room. The entire area has been calculated. However, since the area does not meet the required 1500 sq. ft. area/density curves in NFPA 13, the State Fire Marshal's office is requiring you to make up the additional 900 sq. ft. by calculating the adjacent, dedicated, wet pipe system protecting the interior portion of the building. The areas are supplied by different systems, each protecting separate areas that NFPA requires to calculate a system based on the acceptable parameters of that system. Additionally, the code has no requirement to incorporate additional system in the calculations simply because an entire system does not meet that required area to be calculated. Then, you asked the following question, "Is this a correct interpretation of the intent of the committee?" In response to your question, we have reviewed the 2002 edition of NFPA 13 as the applicable standard. Our informal interpretation is that the total area of 600 sq. ft. can be used as the remote area as long as the specified density is provided.

NFPA 13 does not specifically address this situation, but it is generally understood that when the area is less than the required remote area, the total area is calculated. The Porte Cochere is 600 sq. ft. in area and the remote area is not expected to extend into the building. The building is provided with sprinklers with its own remote area. NFPA 13 does not expect one system to pick up the protection area from another separate system that is physically separated. A good example is an outside loading dock with a roof that may extend the length of the building protected with a single row of sprinklers. The loading dock is not calculated to 1500 sq. ft. and its area does not extend into the building. The design criterion in section 11.2.3.4.2 indicates the design area includes all sprinklers on the line up to a maximum of seven.

Section 11.2.3.1.5 also gives an indication that a remote design area less than those specified is allowed by stating areas of sprinkler operation less than 1500 sq. ft. used for light and ordinary hazard occupancies, the density for 1500 sq. ft. shall be used. Previous to the statement is section 11.1.2 that indicates buildings with two or more adjacent occupancies that are not physically separated by a barrier or partition capable of delaying heat from a fire in one area from fusing sprinklers in the adjacent area, the required sprinkler protection for the more demanding occupancy shall extend 15 feet beyond its perimeter. That section is somewhat ambiguous so additional wording was provided in the 2007 edition of NFPA 13 to clarify. It states the requirements of 11.1.2 (1) shall not apply where the areas are separated by a barrier that is capable of preventing heat from a fire in one area from fusing sprinklers in the adjacent area. In closing, it is not the intent of NFPA 13 to carry the remote design area for one system to be added to another system design. In addition, the Porte Cochere is non-combustible and provided with sprinkler protection, which is above and beyond the minimum requirements of the standard.

The above is my opinion as a member of the NFPA Committee on Automatic Sprinklers. It has not been processed as a formal interpretation in accordance with the NFPA Regulations governing Committee Projects and should therefore not be considered, nor relied upon, as the official position of the NFPA.

If you have any questions, please call me at. (214) 349-5965.

Sincerely,

Tom Wellen
Technical Services

cc: Chris Dubay, NFPA Liaison (NFPA 13/13R/13D)

10-15-2006 Reply to from SFM to Sprinkler Contractor:

The subject matter of this correspondence is similar to your issue below:.

The underlined paragraph in Chris's letter is the key. Chris is saying that 1500 sq. ft design area must be met. If dry system is only 600 sq. ft. then remainder of 1500 sq. ft light hazard area must be taken from adjacent wet system and both systems, providing total of 1500 sq. ft., must be expressed in calculations at points of connection (manifold).

While it appears that Tom Wellen's response is contrary to Chris Dubay's, this office takes guidance from Chris's comments.

It is the opinion of this office that, for a fire originating at the Porte Cochere, whether or not a remote system is less than 1500 sq. ft. is immaterial. The code requires a minimum 1500 sq.ft design area. If the entire building involved is only 600 sq. ft., then the code allows the designer to prove only 600 sq. ft. But this building is a 41,000 sq. ft. fully sprinklered building and therefore, the code demands minimum 1500 sq. ft. design areas.

If more than one separate system is required to satisfy the minimum design area in an area/density design, then you must calculate the minimum 1500 sq. ft. as comprised of two or more systems. The only other alternatives are 1) utilize Room Design Method as per Chris Dubay's letter or 2) separate canopy by a minimum 2-hour fire barrier with separate and independent egress on both sides of fire barrier, in which case this office will acknowledge "two buildings" for the purposes of life-safety review.

You are welcome to send both Tom's and Chris's correspondence back to both parties and ask them for additional comment, but at this time, a total of 1500 sq. ft.design area is required at porte cochere.